

ABSTRACT

In this invention, enhancement of the coercive force of the Fe-B-R based magnetic anisotropic sintered magnets was studied by increasing a content of B and, in addition, containing into material a small amount of such as Al, Si, Cu, Cr, Ni, and Mn effective of enhancing the coercive force and excluding from the material harmful impurities such as P, S, and Sb. This material was powdered by usual melting, casting, crushing, or direct reduction method. This powder was subjected to orientation in a magnetic field, compacted, sintered and subjected to heat treatment. Thus the Fe-B-R based sintered permanent magnets were obtained that have the maximum energy product more than 20MGOe and the coercive force more than 15kOe.